

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty) (PCT Article 36 and Rule 70)

05.10.12

Applicant's or agent's file reference R-89	FOR FURTHER ACTION      See Form PCT/IPEA/416	
International application No. PCT/JP2004/017308	International filing date (day/month/year) 15.11.2004	Priority date (day/month/year) 14.11.2003
International Patent Classification (IPC) or national classification and IPC Int.Cl. <sup>7</sup> F28F9/02, F25B39/02, F28F9/18		
Applicant SHOWA DENKO K.K.		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: <div style="margin-left: 20px;">           a. <input type="checkbox"/> a total of _____ sheets, as follows:           <div style="margin-left: 20px;"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).  <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.           </div> </div> <div style="margin-left: 20px;">           b. <input type="checkbox"/> a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).         </div>
4.	This report contains indications relating to the following items: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Box No. I      Basis of the report  <input type="checkbox"/> Box No. II      Priority  <input type="checkbox"/> Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  <input type="checkbox"/> Box No. IV      Lack of unity of invention  <input checked="" type="checkbox"/> Box No. V      Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement  <input type="checkbox"/> Box No. VI      Certain documents cited  <input type="checkbox"/> Box No. VII      Certain defects in the international application  <input type="checkbox"/> Box No. VIII      Certain observations on the international application         </div>

Date of submission of the demand 30.05.2005	Date of completion of this report 27.09.2005		
Name and mailing address of the IPEA/JP  <b>Japan Patent Office</b> 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan	Authorized officer KANZAKI Takayuki Telephone No. +81-3-3581-1101 Ext. 3377 <table border="1" style="float: right; margin-top: -40px;"> <tr> <td style="width: 30px;">3M</td> <td style="width: 60px;">9037</td> </tr> </table>	3M	9037
3M	9037		

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/017308

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ the international application as originally filed/furnished

☐ the description:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the claims:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the drawings:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (specify): \_\_\_\_\_

☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (specify): \_\_\_\_\_

☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/017308

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>1-22</u>	YES
	Claims	<u>                    </u>	NO
Inventive step (IS)	Claims	<u>                    </u>	YES
	Claims	<u>1-22</u>	NO
Industrial applicability (IA)	Claims	<u>1-22</u>	YES
	Claims	<u>                    </u>	NO

## 2. Citations and explanations(Rule 70.7)

The following documents have been considered for the purpose of this report:

D1: JP 10-339586 A (NIHON KEIKINZOKU K. K.)1998.12.22, Fig. 16(b)  
(Family: none)

D2: JP 2001-241881 A (SHOWA DENKO K. K.)2001.09.07, Fig. 2  
&US 2001/18966 A1 &EP 1130349 A2 &DE 60101235 T &AT 254750 T  
&TW 550134 B &ES 2210049 T

D3: JP 2003-75024 A (SHOWA DENKO K. K.)2003.03.12, Fig. 13-15  
&EP 1397623 A &WO 02/103263 A1 & TW 552382 B &BR 210482 A

The subject matters of claim 1-6, 19, 21-22 do not appear to involve an inventive step in view of D1 cited in the ISR and D2 cited in the same. To connect the pipe 1A, 2A with the connecting member 21B disclosed in D1, employing the joint member 10 disclosed in D2 would have been easily conceived by the person skilled in the art. And, making a lug and a recess for the positioning purpose is generally known in the field of the fastening technology.

The subject matters of claim 7, 8-18, 20 do not appear to involve an inventive step in view of D1, D2, and D3 cited in the ISR. To substitute the header 10, 50 and tubes 6, 7 disclosed in D3 instead of the header 1, 2 and tubes 3 disclosed in D1 would have been easily conceived by the person skilled in the art. And, making a lug and a recess for the positioning purpose is generally known in the field of the fastening technology.